MYRMECIA

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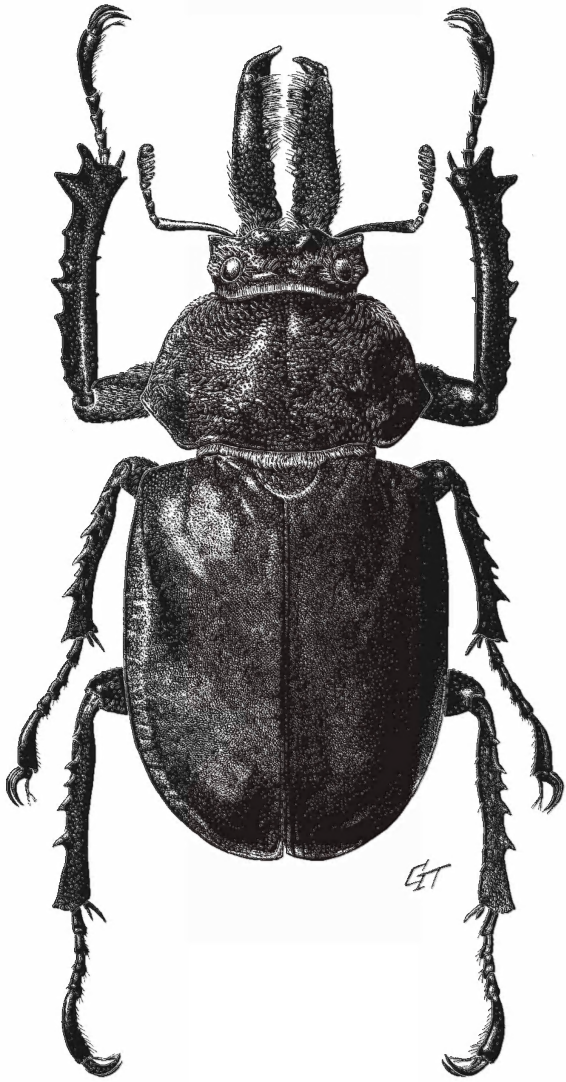

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THE COVER
Sphaenognathus (Australognathus) munchowae, a second Australian species of this Gondwanan Stag Beetle genus, recently described in the Memoirs of the Queensland Museum, by Barry Moore and Geoff Monteith. Illustration by Geoff Thompson, Queensland Museum.

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His Excellency, Major General Michael Jeffery AC CVO MC, Governor-General of the Commonwealth of Australia

SOCIETY SUSTAINING ASSOCIATES
Integrated Pest Management (Bugs for Bugs)

MYRMECIA

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NOTICE

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COPY DEADLINE FOR NEXT ISSUE

Material for the August 2005 should reach **Tish Silberbauer** at tsilberb@bio.mq.edu.au by **Friday 14th October 2005**.

Please submit text as .rtf files, and pictures as 300dpi .jpg files.

EDITORIAL

Hello. This is the second-last issue of my tenure as editor, and my penultimate chance to bring to your attention the opportunity that awaits the brave soul willing to take on the privilege of putting together *Myrmecia* each quarter. If this doesn't ding your bell, there are also opportunities to serve your Society by becoming an office bearer in another capacity. There are several vacancies amongst the office bearers. All are listed as part of the AGM notice later in this bulletin. I would recommend getting involved; not only does it make you feel virtuous, but it's a great way to make contact with a large number of Australian entomologists and can also be sales-point on a CV - both of which are important for those of us who have occasion to look for work from time to time. The forms for appointment of proxies for the AGM and nomination for council positions are at the back of this issue. If you wish for an electronic copy of either form, feel free to email me (tsilberb@bio.mq.edu.au) or Murray Fletcher (murray.fletcher@dpi.nsw.gov.au).

The up-coming 2005 AES combined conference is a feature of this issue. The deadline for early bird registration is the end of August, and it's anyone's guess whether you will receive this issue before or just after the deadline.

It is somewhat alarming to see the direction the federal government is dragging tertiary education and I fear it will have negative consequences for the continuation of entomology education and training in Australia. As universities are squeezed for funds and as class sizes increase to the extent that specialised practical training, entomology training may well become more and more a theory-only subject without the essential hands-on training that it needs. The combination of financial and ethics considerations has already had a marked impact on zoology practical classes and I would expect that undergraduate students these days would be mildly horrified at the degree to which students 15 years ago were given access to real animals to dissect and examine. Given that a crucial element of any entomology training is the assembling, preparation, labelling and identification of an insect collection, what will happen to the quality of the training if fiscal

considerations render student insect collections an historical artefact?

Tish SILBERBAUER

WELCOME TO NEW MEMBERS

When each membership application is approved by the Executive of the Society, the names are published in Myrmecia (see "New Members" in the Executive Report). Sometimes a few biographical notes are included. Over the next few issues, we will publish details of recently elected members whose details were previously missed. Members included below are in no special order.

Sabrina Hall has a B.Sc. (Hons) degree in Wild Life Biology from the University of Guelph, Canada, and is presently undertaking a Masters of Applied Science degree at the School of Biological and Environmental Sciences, Central Queensland University, Rockhampton. The subject is dipteran larval infestations of marine turtle nests. The study is supported by an International Postgraduate Research Scholarship.

Inger Vilcins is a PhD candidate in marsupial immunology in the Department of Biological Sciences at Macquarie University in Sydney. Her study will look at the role ectoparasites play in disease transmission in Australian fauna, both native and introduced. Her entomological interests include the orders Phthiraptera and Siphonaptera as well as ticks and mites.

Mark Schultze commenced his PhD at the Queensland University of Technology in 2003 where he is looking at genetic and ecological viability in the chrysomelid *Paropsis atomaria*. He previously completed (in 2000) a study on the phylogeny of the tephritid antlered flies (*Phytalmia* spp) at the University of Queensland.

Julie Old is a postdoctoral fellow in marsupial immunology in the Department of Biological Sciences, Macquarie University. She is interested in ectoparasites of Australian native mammals and the disease implications.

Nichola Hill holds a B.Sc. (Environmental) degree with honours and is also in the Department of Biological Sciences at Macquarie University in Sydney. She has a specific interest in ectoparasites of possums and their interactions with the collection of non-native mammals at Taronga Zoo in Sydney.

Viengphet Vansilalom is a plant health scientist with the Department of Agriculture, Vientiane, Lao PDR. With the assistance of an AusAID scholarship, she is studying for a M. App. Sc. (Entomology) at James Cook University, Townsville. Her undergraduate degree was completed in Thailand.

Murray FLETCHER

Australian Entomological Society's 36th AGM and Scientific Conference, 7th Invertebrate Biodiversity and Conservation Conference, and Society of Australian Systematic Biologists Joint Conference

4 – 9 December 2005
The Australian National University, Canberra, Australia
On-line registration and abstract submission now available on www.invertebrates2005.com

Current Symposia include:
Invertebrate diversity and landscape management
Managing invertebrate communities for benefits to agriculture and conservation
Consequences of the Aridification of Australia since the beginning of the Tertiary: Evolutionary Radiations in the Biota
Social insects down under: contributions from Australia to the Global Understanding of
Social Life
Managing impacts affecting invertebrates of environmental significance
Funding and Training in Systematics - an Agenda for Australia
The benefits of invertebrates in solid waste management and site remediation
Managing water and waste water with invertebrates
DNA barcoding: Promise, Pitfalls and Progress
Australasian Arachnology – Evolution, Ecology and Conservation
Genetic control for Australian Sheep Blowfly- New Perspectives
The role of scientific collections in modern research
Fine scale phylogeography and speciation
Australia's invertebrate hot spots
Can current conservation strategies maintain invertebrate diversity in production forest landscapes?
Priorities and implementing invertebrate conservation in Asia and Oceania
Enhancing Australia's biosecurity

There will also be Contributed Paper Sessions, Posters, Photography and Illustration Competition, and Best Student Paper Award

For more information please contact
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NOTICE OF 36TH ANNUAL GENERAL MEETING

The Australian Entomological Society Inc.

The Society's 36th Annual General Meeting will be held in Canberra on 6th December 2005. A draft Agenda appears below. Members who wish to have additional items included in the Agenda for discussion at the 36th AGM need to provide the Secretary with details by 18th November 2005.

The Australian Entomological Society Inc.
Draft Agenda

The Manning Clark Centre, Australian National University, Canberra, Tuesday 6th November 2005 commencing at 5.30pm.

1. Opening and General Announcements
2. Announcements of Proxies and Apologies
3. Deaths of members recorded since 35th Annual General Meeting
4. Minutes of 35th Annual General Meeting
5. Business arising out of the Minutes
6. Executive Annual Report, including reports of Vice-President, Treasurer, Chief Editor and Editor of News Bulletin
7. Report of the Conservation Committee
8. Competitions and Awards
9. Business arising from outgoing Council Meeting
10. Announcements of Office Bearers and Councillors for 2006
11. Report of the Organising Committee, 36th Annual General Meeting
12. Report of the Organising Committee, 37th Annual General Meeting
13. Other business (arranged with the Secretary no later than 18th November 2005)
14. Close

Call for nomination / renomination of Officers and Councillors

The following Offices will fall vacant at the Society's 36th AGM in December 2005. Nominations for election should be made on the form provided below and should reach the Secretary no later than 31st October 2005.

The information below has been checked with the provisions and requirements of the Society's Constitution.

The President is elected for one year and is eligible for re-election for only one further year. Dr Naumann is therefore eligible for re-election for a further year. Other Executive positions (Vice President, Secretary, Treasurer), termed the Officers of the Society, are appointed for two years and are eligible for re-election for subsequent terms. The incumbents will therefore continue in these positions to 2006 and will be eligible for re-election then.

The Council consists of the Officers, the Immediate Past President, Regional and Representative Councillors, Chief Editor, News Bulletin Editor and Public Officer.

Chief Editor, News Bulletin Editor and Public Officer are all eligible for re-election. The current News Bulletin Editor has indicated that she will not be available for re-election.

Regional Councillors are appointed annually and can serve for up to a maximum of three consecutive terms. Those not eligible for re-election are indicated with an asterisk in the list below. Representative Councillors are appointed by the Affiliated Societies which they represent and have no restrictions on terms of office.

We also have Executive appointments, which currently comprise the Promotions Officer, Minutes Secretary, Membership Secretary, Technical Editors and members of the Conservation and Education Committees.

Vacant Office Present Incumbent

* = not eligible for re-election
President Ian Naumann
Chief Editor John Mathiessen
Public Officer Jane Wright
News Bulletin Editor Tish Silberbauer
Regional Councillors (terms served in brackets)
Qld *Jane Royer (3), *Bronwyn Walsh (3), Kylie Anderson (1)
NSW Aaron Simmons (2), *Alan Clift (3)
ACT Martin Steinbauer (1)
Vic Linda Thompson (2)
SA *Glenys Wood (3)
Tas Simon Grove (2)
WA Sonya Broughton (1)
NT *Tracy Dawes-Gromadzki (3)
Representative Councillors
Ent. Soc. Qld Gunter Maywald
Ent. Soc. NSW Martin Horwood
Ent. Soc. Vic. Ian Endersby (acting)

Please note: Nominations will need to be made for all the positions listed above by the end of October. If you are eligible for re-election, please complete the nomination form at the end of this issue and send to the Secretary. If you are not eligible for re-election, please nominate a replacement.

THE MACKERRAS MEDALIST 2004 – Ary Hoffman

Tish Silberbauer asked me to write a brief outline of my career as the latest recipient of the Mackerras Medal. My interests in entomology go back a long way. As a child growing up on a market garden on the outskirts of Christchurch, I remember all too well the constant interactions we had with various pests ranging from cabbage white attacking brassicas through to noctuids attacking sweet corn and various thrips attacking onions. Our farm was very much an old style market garden, a small labour-intensive enterprise where we grew almost anything ranging from strawberries to pumpkins, tomatoes, potatoes, and corn. Being typical migrants, my parents toiled endlessly to meet the mortgage payments. Inevitably the small size of our enterprise (5 ha) meant that we could not grow vegetables economically for fresh market supply. However, my mother established a stall next to our house and this proved to be highly successful. Soon our weekends were taken up serving customers at the stall, growing whatever crops customers wanted, and making sure that the corn and tomatoes were not too heavily infested with grubs! Pest control was simply a matter of spraying in response to perceived problems, mostly organophosphates applied by knapsack and (much later) via boom sprayer. I have clear images of my father spraying with a knapsack while wearing a heavy oilskin coat and a rudimentary mask, cursing various pests but having little idea about what he was really spraying apart from the fact that it was recommended.

The market garden eventually failed but that was well after I'd left home. When I revisited the same area a few years ago, there wasn't a single market garden left. Instead the area had become a series of horse paddocks and hobby farms, a sad sight when I recalled the way that we struggled for all those years to remove stumps and drain the marshy areas.

After finishing high school, I left home and moved to a "mixed" farm on the Canterbury Plains. There I first encountered the sheep blowfly and the effects of fly strike. Control at that time was mainly through the use of pesticides applied in sheep showers as well as by crutching. As farm labourers, we were exposed to liberal doses of pesticides while pushing sheep into the shower pens. There were even occasional reports of "metabolic effects" – people rapidly losing weight after repeated exposures. Still it was a fascinating and varied job, and I learnt a lot about handling stock and broad acre agriculture.

I spent a couple of years in my youth traveling, and eventually ended up in Brisbane at the University of Queensland doing a biology degree. Although I had no idea about future career pathways, I was fascinated by many aspects of biology ranging from bryophytes through to biochemistry and ecology. I moved to Monash for my final undergraduate period, where a series of guest lectures on animal behaviour by **John Alcock** from the University of Arizona stimulated me enormously. Alcock was particularly interested in using insect model systems to ask interesting questions about evolution and sociobiology. When I asked him about potential directions for Honours work, he suggested that I focus on genetics – because he felt that many aspects of behavioural and evolutionary research were about to be revolutionized through the application of genetical approaches. I therefore set out to combine my interests in insect behaviour with genetics, and ended up in **Steve McKechnie's** lab doing *Drosophila* research! Steve taught me about the importance of genetic variation as a source for evolutionary change.

I decided to embark on a PhD aimed at the genetic dissection of behavioural variation, with **Peter Parsons** at La Trobe. Peter had a very indirect way of supervising students – he'd converse with students about all aspects of biology rather than focusing on their research issues, creating a stimulating environment where many novel questions and ideas were explored. Peter introduced me to the power of quantitative genetics, and the need to investigate species like *Drosophila* in their natural habitats. At that time most behaviour genetic studies were being undertaken on traits such as maze finding ability that were easy to measure but had little relevance to the field. By undertaking releases of flies in the field and testing parents and offspring, I was able to show that populations of *Drosophila* consisted of different genotypes whose behaviour led them to different resources – rotting fruit in this instance. These types of studies helped convince researchers of the potential of sympatric speciation in insects – an area that continues to be debated actively even now.

My next move was to Davis, California. I was attached to **Michael Turelli** from the Genetics Department but also interacted closely with researchers from entomology. In those days several US departments had program grants that supported postdocs with the freedom to work in any area. I was soon engaged in collaborative projects with several postdocs and staff on mating evolution, ethanol stress genes, endosymbionts and habitat selection. Perhaps the main finding I made was the chance discovery of maternally inherited incompatibility in *Drosophila*. While crossing *Drosophila* from different populations, I discovered that the crosses would not go in one direction, and this eventually led to the isolation of *Wolbachia*

organisms in *Drosophila* and the development of a model system for understanding how *Wolbachia* might be used to introduce transgenes into pest populations. This work continues with the recent discovery that the original *Wolbachia* infection I discovered has moved from being a parasite to a commensal organism. I also contributed to several other projects, including the discovery of territorial behaviour in *Drosophila*, a system that is now being used by researchers to isolate genes controlling aggression.

After returning to Australia and securing a position at La Trobe, I was determined to combine research on *Drosophila* with that on other insect groups – as a way of revisiting my farming roots. This eventually led to a research program on pest earth mite species, initiated with **Garry McDonald** and later with **Andrew Weeks**, and involving several graduate students including **Paul Umina** and **Michelle Robinson**. We demonstrated that several major earth mite pests were clonal while another was sexual. We discovered that there were three cryptic species of blue oat mite which differed in distribution, pest status on different crops and chemical response. Descriptions of these pest species have only now finally been completed following a recent paper in AJE **by Bruce Halliday**. The program continues with a number of emerging mite problems and we continue to realize the benefits of understanding the biology of a pest when devising control methods. Our group has been involved in other programs to understand pests including eriophyoid mites, phylloxera, snails and pest moths, by undertaking detailed biological studies of the pests. This work has led to effective ways of targeting pests, such as Martina Bernard's contributions to rust mite control within vineyards and **Angela Corrie's** research on ecological variation among phylloxera clones.

As well as focusing on pests, we've also been focused on beneficials. Together with **Deann Glenn** and others including **Linda Thomson**, **Tracey Bjorksten** and **Brad Rundle**, we initiated a program aimed at using *Trichogramma* wasps for improved biocontrol. This work led to the development of a strain used commercially for controlling lightbrown apple moth. We developed ways of maintaining the fitness in wasp cultures and quality indicators for assessing wasps. Unfortunately, the success of *Trichogramma* releases for pest control has been compromised by the sensitivity of the wasps to several pesticides and fungicides. We're now evaluating the impact of chemical controls and other management approaches widely in vineyards and other systems, looking at impacts on all beneficial invertebrate complexes and testing for secondary pest outbreaks. We've also made small contributions to chemical impact testing in Indonesia. For instance, in recent work with **Hidrayani**, **Aunu Rauf**, **Peter Ridland** and others, we showed that pesticide applications were ineffective against leafminers in Java potato fields, but still had harmful effects on effective predators and parasitoids

Our *Drosophila* research has continued through the efforts of many outstanding graduates like **Mark Blows**, **Carla Sgrò**, **Richard Woods**, **Michele Schiffer** and **Miriam Hercus**. This research has helped redefine *Drosophila* as a model system for understanding how organisms adapt to their environment. We've also used rainforest *Drosophila* to show how organisms have difficulty adapting to their environment – and perhaps stumbled across the ultimate evolutionary explanation for why species have particular distributions, involving genetic limits to adaptation. Along the way, we've learned a lot about the genes and mechanisms whereby insects adapt to climatic stresses. One of the most rewarding outcomes of all this research is the unexpected application of our findings. For instance, we've recently used two genetic markers that are involved in climatic adaptation to show that insect populations are evolving rapidly in response to recent climate change.

Entomology research is at a particularly exciting stage at the moment. Genetic barcoding of insects and mites has the potential to be applied widely in pest and environmental monitoring. Through the efforts of **Melissa Carew**, **Vin Pettigrove**, **Dave Sharley** and others, our centre is involved in projects aimed at developing barcodes for species of midges that hold enormous potential in monitoring water pollutants. We're also developing barcodes for aphids, leafminers and other groups that have the potential to invade this country. The other area that looks set to expand rapidly is the genetic control of insect pests. There was a lot of excitement about the potential of genetic control in the 60's and 70's, but I suspect that only now with the advent of a host of new molecular tools and knowledge will this potential start to become realized. We're currently re-looking at the potential for *Wolbachia* to act as a useful manipulation agent.

I've been very fortunate in my career so far – supported by generous senior colleagues, excellent graduate students, loyal research assistants and postdocs, managers at research agencies willing to fund some crazy ideas, and a family very tolerant of the amount of time I spend at my laptop! I feel privileged to have worked in an affluent and stable environment – though I am mindful of my large footprint on that environment, reduced only partly through my Prius, green energy solutions, and solar contributions.

Ary HOFFMANN

AUSTRALIAN MUSEUM EUREKA PEOPLE'S CHOICE AWARD

This year the Australian Museum Eureka Prizes have learned the marketing lessons of reality TV - and launched the Eureka People's Choice Award. This new initiative gives the public the chance to become directly involved in the Australian Museum Eureka Prizes by voting online at www.amonline.net.au/eureka/peoples_choice/ for their favourite scientist from 6 finalists drawn from all entries in this year's record 10 Eureka research prizes. The new award is a direct and practical way of increasing engagement by the public with Australian science and scientists.

Voters in the Eureka People's Choice Award go in the draw for significant prizes - including the chance to win what Brendan Nelson has described as the "ultimate designer accessory" - having part of your DNA sequenced by the Australian Museum and framed to hang on your living room wall.

Roger MULLER, Australian Museum

BOOK REVIEW

(1) A Systematic Catalogue of the Scale Insect Family Margarodidae (Hemiptera: Coccoidea) of the World by Y. Ben-Dov. 400 pp. ISBN 1-84585-000-9. Price: £40.00 or 64.00€. Published by Intercept Ltd in 2005 <http://www.intercept.co.uk/gb/>

(2) A Systematic Catalogue of the Cerococcidae, Halimococcidae, Kermesidae, Micrococcidae, Ortheziidae, Phenacoleachiidae, Phoenicococcidae, and Stictococcidae (Hemiptera: Coccoidea) of the World by D. R. Miller, M. E. Gimpel and A. Rung. 554 pp. ISBN 84584-001-7. Price: £50.00 or 80.00€. Published by Intercept Ltd in in 2005 <http://www.intercept.co.uk/gb/>

The above two books deal with families of scale insects and both were published by Intercept Ltd and thus are reviewed together below. For the convenience of the review, the first book is referred to as Ben-Dov's (2005) Margarodidae Catalogue (or Ben-Dov's catalogue) and the second as Miller *et al.* (2005) eight-family catalogue (or Miller *et al.* catalogue).

General comments for both books

Both of Ben-Dov's (2005) Margarodidae catalogue and Miller *et al.* (2005) eight-family catalogue are part in of a series of publications resulting from a project called "ScaleNet". Other catalogues published in this series include "A Systematic Catalogue of the Eriococcidae (Felt Scale (Hemiptera: Coccoidea) of the World" by D. R. Miller and M. E. Gimpel and "A Systematic Catalogue of the Diaspididae (Armoured Scale Insects) of the World, Subfamilies Aspidiotinae, Comstockiellinae and Odonaspidinae" by Y Ben-Dov and V German. The later was reviewed in *Myrmecia* (Vol. 41 Part 1: 7) by Laurence Mound in early 2005. The objective of the ScaleNet project is to document all the published information on scale insects, a group comprised of more than 7000 species. The group as a whole is now generally accepted as a superfamily (Coccoidea) in the insect order Hemiptera, although some coccidologists regarded it as a suborder (Coccinea). Currently, twenty-eight families of scale insects are recognised with a few families including only one or two species. Scale insects spend most or all of their lives feeding on plants and some are very important plant pests. Because of their pest status, scale insects may be one of the better studied insect groups, although many new species remain to be described.

These two books together provide comprehensive information on nine families of scale insects: Margarodidae (Ben-Dov's catalogue), Cerococcidae, Halimococcidae, Kermesidae, Micrococcidae, Ortheziidae, Phenacoleachiidae, Phoenicococcidae, and Stictococcidae (Miller *et al.* catalogue). Both use almost the same format for the catalogue. Both books starts by dedicating the catalogues to the other past and present coccidologists, then followed by Abstract, Key words, Preface, and Acknowledgments. For Introduction section, two books adopted somewhat different presentations to accommodate for their particular situations: one dealing with only one family, another with eight families.

Both books present some data on the family statistics in a table to indicate the percentages of monotypic genera in the families of scale insects. The data show that the monotypic genera in scale insects ranges from 25% to 100% with nearly half of all scale insect genera are monotypic. The data also indicate that only slightly more than one-tenth of the genera contain 10 or more species. Miller *et al.* concluded that these data "present a rather disconcerting picture of coccidology's concept of scale classification". It should be pointed out that traditionally the classification of scale insects has been mainly based on the features of adult females because they commonly encountered and collected. Recently, some efforts have been paid to study other stages such as adult males and immature stages and other characters such as molecular data. Current high percentage of monotypic genera may be reduced from further such studies.

The main body of the books is the species catalogue. Under each valid scientific species name, information and/or references are provided for synonym(s), common names, systematics, structure, host

plants, natural enemies (called 'Foes' in Miller *et al.* catalogue), distribution, biology, economic importance, general remarks, keys, citations (alphabetical listing of all publications that cite the species name). Not all species have information available for all these aspects and information for some species is more comprehensive than others. References are listed after the catalogue of each family (further comments on the reference lists of Miller *et al.* catalogue below). Index is provided at the end of each family but there is no page number referred in the index, which, I believe, is a shortcoming of the books. The publication of these two books means that there are now more data on the family Margarodidae and other eight families accessible on the ScaleNet (http://www.sel.barc.usda.com/scalenet/scalenet.htm).

It is my personal observation that publications resulting from the ScaleNet project provide much rich and comprehensive information and references. This is perhaps partly due to the tradition that coccocidologists always tried to list all the world publications on scale insects and make them available. Four bibliographic books on scale insects were published in 1957, 1965, 1974 and 1988, respectively (see ScaeNet: http://198.77.169.79/scalenet/source.htm).

Comments on Ben-Dov's (2005) Magarodidae catalogue

Ben-Dov's catalogue includes brief review about the supra-generic classification within the Margarodidae, mentioning some major work on this family. The catalogue include 442 species and subspecies in 77 genera. Some taxonomic decisions are made in the catalogue. A few references cited in the text are not listed (see Appendix 1).

Many species of Margarodidae are plant pests (important ones are listed on pages 16-18). One of the well know pest species in Margarodidae is the cottony cushion scale *Icerya purchasi purchasi* Maskell because of its history in the classic biological control: it was successfully controlled by the natural enemy, coccinellid *Rodolia cardinalis* (Mulsant), introduced from South Australia to California in 1880's. Eight species of Margarodidae (listed on page 18) are beneficial because their body and/or extractions are used by humans.

Comments on Miller *et al.* (2005) eight-family catalogue

Miller *et al.* catalogue has a shorter Introduction section because the discussion on the supra-generic classification and their phylogenetic relationship is included under each family. This book covers eight families, 45 genera and 406 species. Each family is dealt with separately with its references and index at the end of each family, even if there is only one species in the family (Phoenicococcidae). This arrangement may be convenient for coccidologists who have more knowledge about the classification of Coccoidea but it may prove to be a bit difficulty for other users who usually try to find the references and index at the end of a book. I believe that the authors would have had the dilemma to decide where to list the references for such a book that deal with eight families. Personally, I'd like to see all the references listed at the end of the book because, as stated in its abstract, the book is intended for homeowners, nurseryman, quarantine specialists, extension agents, and state and university researchers. However, because the same information is available on ScaleNet, users not familiar with classification of scale insects would be able to overcome this difficulty by going on to the Internet. There are a number of references cited in the text (especially in the discussion about the relationship under the family) but not listed in the reference list (see Appendix 1). Some cited references are not matched at the reference list (e.g Koteja 1996 is cited but Koteja 1996a listed). Fortunately, if users really want to find details of these references, they may find them on ScaleNet.

Conclusion

As quarantine entomologists, my colleagues and I found such catalogue is very useful and helpful. The authors are to be congratulated for the publication of such comprehensive and useful books on such important groups of insects. I recommend that people interested in any aspects of scale insects should have a copy handy.

Ting-Kui QIN

EXECUTIVE REPORT

New Members

Sharma Khan, CSIRO Entomology, Indooroopilly, Queensland

Robyn Sinclair, Macquarie University, NSW (Student member)

Viengphet Vansilalom, James Cook University, Queensland (Student member)

Paul van Heorck, CALM, Western Australia

Karen Richards, Tasmania

Haminatha Rohitha, AQIS, Victoria

Resignations

Noel Starick, ACT

From the Minutes

ICE outcomes

Final financial statements have been received from the organising committee of the ICE in Brisbane and the congress has brought in a profit to the Society of more than $100,000. Congratulations to those

whose efforts have provided such a boost to the Society. Proposals for utilising these funds to benefit entomology in Australia will be discussed at the Annual General Meeting in December.

The Executive is currently working to establish an Education Committee along the lines of the Society's Conservation Committee. This new committee will consider the many issues concerning entomological education in Australia from school level to university and even succession planning for our aging professional entomologists. It is intended that the committee will develop proposals for possible AES action to promote improvements in the current education situation in Australia. Some of the ICE funds could be invested in supporting their efforts.

One proposal that will be considered will be the re-establishment of an AES research grant scheme. In past years, the society has provided a small amount of funding to support field collection, visits to museums, purchase of equipment, etc (maximum $1000 per grant). Although not major funding, small amounts of support of this nature can be extremely useful, particularly for workers without institutional or R&D funding. An added benefit is that a report on the results of the funded work is required for publication in *Myrmecia*, thereby adding another element of interest to our newsletter.

Any additional suggestions for utilisation of the ICE windfall can be sent to the Secretary prior to the AGM in December and will be included in discussions.

2005 AES conference

Members are urged to register on-line for the Society's conference, which will be combined with the Society of Australian Systematic Biologists and the 7th Invertebrate Conservation and Biodiversity Conference. Such a wide ranging conference will provide a wealth of interesting papers covering insects, other invertebrates and possibly also other groups (SASB not being limited to invertebrates, of course). The conference website www.invertebrates2005.com also provides a list of symposia-in-preparation to whet your appetites. Papers and posters of a more general nature are also invited.

The Society will also be sponsoring the Phil Carne prize and the annual Insect Illustration and Photography competitions (details will be available on the conference website) although the subject area is being broadened to include images of non-insect invertebrates, which just goes to show how tolerant entomologists are. "It is well known that zoologists differ from entomologists to the extent that the latter may have some acquaintance with the whole animal kingdom, whereas zoologists usually profess ignorance of insects which comprise the greater part of it." (J.W. Evans, 1965 *Aust. J. Sci.* 28(3): 105-112).

2006 AES conference.

John Early, of the New Zealand Entomological Society, has now confirmed that the NZES will join with AES in holding a joint AES/NZES conference in Adelaide in September 2006. **Dennis Hopkins** is leading the SA organising committee.

Death of Wally Wright

The Executive was advised at its May meeting that former entomologist with the Department of Agriculture in New South Wales, Walter Wright, passed away in April, aged 84. Wally was not a member of the Society, at least in recent years, but he was one of the "old school" of applied entomologists who contributed much to the profession. We understand that he commenced his study of Entomology at Sydney University after returning from the Second World War. He worked on pasture and field crop pests, and later on banana weevils. He served the Department at several locations including Narrabri, Alstonville (where he indulged his passion for blackfish fishing) and Rydalmere. He was fluent in the Japanese language and had a great love of opera.

Murray FLETCHER

REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

CSIRO Entomology

Desley Tree of QDPI, Indooroopilly. worked with **Laurence Mound** for four weeks in June and July to learn how to make microslides of thrips and then how to identify them. Her stay was financed by the Department of Agriculture, Fisheries & Forestry (DAFF). Among the slides she brought with her was a specimen taken at Sherwood of a species that has not previously been recorded from Australia. This species is a pest of citrus in Florida, bananas in the West Indies and of *Anthurium* lilies in Hawaii. This is the third exotic thrips species taken in this Brisbane suburb in the past five years.

Laurence MOUND

ABRS

Successful applicants and renewals of existing grants have been announced for this year's round of the ABRS Participatory Program. Details are

available online on the ABRS website. Among new entomological projects selected for funding in 2005-06 are studies on Australian lacebugs (Insecta: Heteroptera: Tingidae), spider-hunting wasps (Hymenoptera: Pompilidae), xiphydriid woodwasps (Hymenoptera: Xiphydriidae) and ants of the genus *Polyrhachis*. Molecular studies include one on *Acanthanura* species (Hexapoda: Collembola) and another on co-evolution of Australian phabine pigeons (Aves: Columbiformes: Columbidae) and their wing and body lice (Insecta: Phthiraptera: Ischnocera). Several studies on other arthropod groups are to receive funding — a study on scutigeromorph centipedes and another on orb-web spiders of the subfamily Araneinae (Araneae, Araneidae) and two nematode studies will receive support.

Two entomological projects are currently underway at ABRS. These are preparation for publication of **Alan Dyce's** Atlas of Australasian Culicoides Wings, a text that will be invaluable for identification of this important group of biting midges in Australia and regions to the north and east. The other project is to see to publication Shelley Barker's monograph on the jewel beetle genus *Castiarina*, for which a superb set of colour illustrations has been prepared over a number of years. The jewel beetle book is expected to be available in December this year, and will be particularly useful to natural resource and collection managers and customs officers.

An interesting project managed by ABRS over the last three years and funded by the Natural Heriatge Trust has been the development of habitat profiles for selected aquatic insects. **Phil Suter** at LaTrobe University, Albury Wodonga campus, organised a team who have worked through specimens and data gathered Australia-wide by the Monitoring River Health surveys to glean extensive distribution and habitat information for around 200 species of caddisflies, stone flies, mayflies and odonates. The output from the project will be a series of fact sheets, one for each species, made available online by late this year. The study has provided useful biogeographical and ecological data within the limitations of rapid assessment methods used for surveys of aquatic systems.

Thanks to **Ross Storey**, ABRS has been able to add several further beetle groups (anobiids, bostrichids, nitidulids, silvanids and dermestids) to the Australian Faunal Directory. For the present, these are simply names lists giving authorities, but no further data. Compilation of other insect groups is underway.

Alice WELLS

Australian Plague Locust Commission

Martin Steinbauer has been busy ordering all manner of expensive new scientific equipment to upgrade the main laboratory in Canberra as well as deck-out the laboratories of the three field bases. Consequently, companies such as Thermoline Scientific, Leica and Mettler-Toledo, which had not heard from the APLC for some years, have now been well and truly re-acquainted with the organisation!

Martin has set up collaborative projects with a number of colleagues with a view to addressing in the coming season issues of particular concern to the APLC. **Alistair Drake** (ADFA/UNSW) and Martin have been making plans to determine the composition of insects tracked by the insect radar at Bourke and **Paul Walker** (formerly with the APLC), **Theo Evans** and **Patrick Gleeson** (CSIRO Entomology) have been providing expertise on ways to measure termite activity. **Mamoru Matsuki** (University of Tasmania and CRC Sustainable Forest Landscapes) will shortly be hosted by the APLC to investigate whether logistic regression can be applied to the locust data (nymphs only) collected by the Commission since 1987 with a view to quantitatively describing the relationship between climate and plagues (if possible!).

Martin has also been responsible for collating material from APLC research staff in readiness for a 2-day review of their science in early August. The research review panel, which includes **Myron Zalucki** and **Dennis Hopkins** (Leader of the Entomology Unit at SARDI) among others, will assess research achievements since early 1999 and consider proposals for research foci from 2005 until 2010. The review will be followed by a meeting of all APLC staff to discuss preparations for the upcoming locust season. At this meeting, Martin will pose as Santa Claus and distribute gifts comprising one incubator, one dehydrator and one electronic balance to staff from each of the three field bases. This will enable field staff to hatch locust eggs under specific temperature regimes (based on average temperatures in their place of collection) and measure soil moisture so that times of hatching, predicted by a DYMEX-based model of development of *Chortoicetes terminifera*, can be validated. In addition, colleagues from a number of Victorian and NSW-based agencies are keen to know more about the locust eggs that have been laid in their jurisdictions. Not having the expertise or equipment available at the APLC, these colleagues want APLC staff to clear and examine field-collected locust eggs and incubate them to ascertain viability, rates of parasitism and time of hatching.

Martin STEINBAUER

NEW SOUTH WALES

Charles Sturt University, Orange Campus

So far 2005 has been an eventful year for the pest biology and management group at Charles Sturt University. The disruption caused by the announcement that The University of Sydney planned to transfer the Orange campus to Charles Sturt University is declining. **Aaron Simmons** has completed his PhD on trichome-based host plant resistance of wild tomatoes. Two new members have been welcomed to the group. **Getachew Ali** is conducting RIRDC funded work on the leaf-hopper vectored lucerne yellows phytoplasma. **Sagrario Gamez** has picked up the RIRDC funded project that examines the response of arthropods to botanical diversity of farm shelterbelts. **Holger Loecker** started a pilot study of biological aspects of silk production by *Kahaono montana*. HAL have approved funding for a new project on biological control of Brassica pests to be led by **Stephen Goodwin** (NSW DPI) in collaboration with **Geoff Gurr's** group and two PhD scholarships will be advertised shortly. Prospective applicant can get advanced details from ggurr@csu.edu.au. If anyone has access to a colony of *H. armigera*, Aaron Simmons requires specimens. Please contact him on asimmons@csu.edu.au.

NSW Dept of Primary Industries Orange Agricultural Institute

Peter Gillespie spent two weeks in Thailand in June as part of DAFF's SPS Capacity Building Program. Peter ran a workshop on Aleyrodidae and managed to do some collecting at Chang Mai as well. **Murray Fletcher** and **Birgit Löcker** are looking forward to attending the 12th International Auchenorrhyncha Congress at UC Berkeley in California at the beginning of August. Birgit and Holger will be visiting the Bishop Museum in Honolulu on the way over to return Kirkaldy types of Issidae and Cixiidae and look for type material of Cixiidae that has not yet been examined as part of Birgit's ABRS-funded work on Cixiidae.

Paul Hebert from the University of Guelph in Canada passed through OAI on his way from Canberra to Sydney, in order to catch up with **Andrew Mitchell** and borrow the moths that have been collected by Andrew and prepared beautifully by Holger Löcker. These will be returned minus a couple of legs which will be incorporated into Paul's Barcoding of Life program.

Aaron SIMMONS

PAPUA NEW GUINEA

NAQIA

An MOU between NAQIA and AQIS on sharing of information with regards to pests and diseases along the border between PNG and Indonesia was signed recently. **David Tanakanai** and **Bruno Pinese** are getting ready to go chasing the red banded catepillar a pest of mangoes later in July. **Jan Van Graever** recently visited to discuss the control of giant African snail. The project is set to start in six months time.

UPNG

Takis Solulu has been appointed lecturer in entomology at the Biology Department at University of Papua New Guinea, Port Moresby. He is providing continuity for what **Ray Kumar** has left off.

NARI

It was good to see that **Mark Ero** can now proceed with completing his PhD studies with the Queensland University of Technology, Brisbane. He leaves for QUT in mid-July. **John Wightman** (INTIPM, Australia) and **Lastus Kuniata** undertook a project review on taro beetle control in PNG (and Fiji) in June. Congratulations to **John Moxon** and his team who had done a great job and there is now available effective and cheap control method for this serious pest of taro in PNG and Pacific Island countries. The results of this work will be published shortly. **Sada Lal** (SPC) was also there in relation to this project.

Ramu Sugar

John Wightman (INTIPM, Australia) visited Morobe, Eastern Highlands and Madang provinces in April in studying pests and diseases of peanuts. Jassids and white grubs appeared to be important pests at present. Recently Lastus Kuniata has been appointed to the PNG Cocoa Coconut Institute's technical advisory committee.

PNG OPRA

Profile on **Charles Dewhurst**: Charles joined the Oil Palm Research Association (OPRA) at Dami Research Station in West New Britain Province in late April 2005. He started his career at the Anti-Locust Research Centre (ALRC) in London, having always had a passionate interest in insects. He later moved on to CSIRO (South Africa) where he worked in Pretoria, on the dung beetle programme developed by the late Doug Waterhouse collecting material for their rearing programme aimed at subsequent beetle introduction into homoclimatic parts of Australia. He returned to Africa where he joined the small team of

the late Eric S Brown, addressing the serious agricultural impact caused by an important cereal pest, the African armyworm, *Spodptera exempta* (Lepidoptera: Noctuidae). Upon his return to the UK in 1993, he was involved in consultancy work, mainly for FAO (UN) with problems associated with desert locust, and has worked in 20 countries on the African continent. He also had other entomology assignments before coming to PNG. Charles is currently involved with IPM studies on sexava control, particularly with the parasitoids of sexava. He is determine to clear up the confusion with the taxonomy of this group of amazing grasshoppers (Orthoptera: Tettigoniidae), and try to clarify their affinities with one other (parthenogenesis and ecological separation). Of course he has to undertake on-going studies on aspects of oil palm pollination, and the leafhopper *Zophiuma loblulata*, the likely causative agent of Finschaffen disorder of coconuts which appears to be spreading into Oil palm. He wants to link up with colleagues in Australia in sharing information of common interests. The oil palm industry wishes to involve itself in the conservation of the Queen Alexandra's Birdwing (*Ornithoptera alexandreae*) in suitable habitats.

Entomology no longer seems to encompass only insects, and we are now addressing problems of damage by rats to the oil palm fruits, and even snails. Charles looks forward to facing many fascinating entomological challenges and meeting new colleagues, while having the opportunity to pursue my personal interests in insects and natural history.

Lastus KUNIATA

QUEENSLAND – NORTH

Scientific Advisory Services - Tully

Richard Piper from Scientific Advisory Services in Tully had a visit recently from a number of US dipterists. Tephritid specialist **Gary Steck** and tephritid/tabanid specialist **Bruce Sutton** were on a collecting trip to north Queensland and based themselves at Kingfisher Park near Julatten. An enjoyable day was spent collecting tabanids and tephritids at Mission Beach and Cowley Beach with Gary and Bruce. Unfavourable weather (cool and wet) at the time meant few insects were taken, however an interesting series of flower breeding/seed feeding tephritids (as yet unidentified) was collected from a native daisy, *Helichrysum rupicola*.

AQIS

Cairns - Kylie Anderson has taken leave from AQIS Cairns to work on her PhD entitled "Invasion potential of *Eumetopina flavipes* Muir, vector of Ramu Stunt disease of sugarcane. She commenced at JCU in Cairns in July 2005 and has settled back into university life quite nicely, but is a bit disturbed to find a preposterous preponderance of marine research occurring. Kylie has offered to take over the job of Myrmecia Regional Councillor for north QLD as the three year term of **Jane Royer** and **Kerrie Huxham** will cease this year.

Mareeba - Kerrie Huxham reports that the NAQS fruit fly and baitspray program in Torres Strait, northern peninsula area and Weipa has moved to monthly clearances for the dry winter months. During the 2004/05 summer season, a total of 57 target specimens were trapped offshore. This compares with 72 specimens trapped in the previous season. The focus this season was largely in the Eastern islands of the Torres Strait. In response to this, seven extra traps were installed, officers weekly baitsprayed a total of 1810 litres of spray on seven islands in the Torres Strait and male annihilation blocks were installed by DPI&F staff on eight islands.

In July, **Graham Brown** from the Northern Territory joined **Barbara Waterhouse** and **Matthew Weinert** as the Entomologist on survey in Papua New Guinea. In September Kerrie Huxham, Barbara Waterhouse and Matthew Weinert will survey the northern cape areas of Lockhart River, Portland Roads, Chilli Beach and Iron Range for new or extended distributions of insects, weeds and plant pathogens. **Judy Grimshaw** is presently in Scotland enjoying her extended leave.

DPI&F

Cairns - Jane Royer and **Mark Stanaway** have been planning their upcoming surveillance activities with the rest of the Northwatch team. Surveillance for the introduced redbanded mango caterpillar and mango leafhoppers will be conducted at various sites on Cape York Peninsula. The Atherton Tablelands will also be surveyed later in the year just to make sure they haven't made it this far south yet.

Gary Steck also visited the fruit fly identification laboratory in Cairns. Jane Royer and **Mundi Smith** were able to supply him with a multitude of locally trapped Methyl Eugenol and Cue lure attracted species to take back to Florida.

Mareeba - After 41 years working in entomology at the DPI&F Mareeba, **Keith Halfpapp** has finally hung up his insect net to retire. Over the years he has worked in tobacco, rice and tropical fruits; harassed fruit flies in three decades and worked with at least five entomologists. Good luck in the future, Keith!

Stef de Faveri has recently returned to his position as Senior Experimentalist in the Mareeba team after 18 months in Toowoomba where he was studying a coursework graduate diploma in Entomology. After completing the last 4 units of this Stef will commence a Masters project.

DPI&F entomologists, **Geoff Waite** (Nambour) and **Bruno Pinese** (Mareeba) recently visited the Philippines to initiate a new ACIAR funded project on mango IPM. The project titled "Integrated pest management and supply chain improvement for mangoes in the Philippines and Australia" aims to increase the quality and value of mangoes for the benefit of poor rural producers in the Philippines. The work will also have an Australian research component and will increase our knowledge and collaboration with Philippine entomologists with regard to Quarantine pests.

Geoff and Bruno inspected mangoes and met researchers on the Islands of Guimaras and Mindanao. Production methods, pests and mango cultivars vary significantly from Australia and the Cecid fly, *Procontarinia frugivora*, mango leafhoppers, *Idioscopus* spp and the bug *Helopeltis* sp were identified as important pests.

Jack Hasenpusch spent a week in Brisbane in late June. He spent time at the Queensland Museum identifying insects as part of a long term project looking at insect diversity on a banana farm in the Tully area [see http://www.eco-banana.com.au/resdev.html for information on the project]. Jack also caught up with **Peter Allsopp** to talk scarabaeid beetles.

Dave Rentz made two trips overseas last month. The first was to Kota Kinabalu, Sabah Borneo to discuss his newly published book 'A Guide to Australian Grasshoppers and Locusts' [see http://www.nhpborneo.com/main.htm]. The second was to South Island NZ for a sound archivist meeting [no wetas about unfortunately].

South Johnstone - David Astridge caught up with the entomology group in Mareeba to wish Keith Halfpapp a happy retirement after 40 years working as an entomology technician. During this time David caught up with Bruno Pinese and **Harry Fay** to discuss matters relating to the new ACIAR mango IPM project. David and **Rob Bauer** also spent time visiting mango growers on the Tablelands to talk about the new project.

Emerald - Alison Shields reports that the focus of the Emerald entomology team is now to publish the data and research results gathered over the past 3 years on silverleaf whitefly. Results will be published in the form of a comprehensive booklet detailing silverleaf whitlefly bionomics and population dynamics in Central Queensland.

Kerrie HUXHAM and Jane ROYER

QUEENSLAND - SOUTH

Griffiths University

Rod Eastwood, for the School of Environmental Studies, Griffith University, Nathan Campus, attended the I Econtro sobre Lepidoptera Neotropicais (I ELEN) held at the Universidade Estadual de Campinas (Unicamp) situated about 100 km west of Sao Paulo, Brazil from 17-22 April 2005. This was the inaugural conference on Neotropical Lepidoptera and was attended by leaders in the field of Lepidoptera research worldwide. Presentations mostly dealt with South American Lepidoptera, but the methodologies employed and the interpretations of data had broad application, particularly in phylogenetics and biogeography. Rod gave a presentation describing how ants influence diversification in Lycaenidae, using the Australian genus *Jalmenus* as his model system.

While in South America Rod also spent a week collecting Lycaenidae (for a phylogeny of Eumaeini) in the rainforests near Rio de Janeiro, and then joined an associate for a three week collecting trip to northern Peru to search for a rare polyommatine lycaenid, *Eldoradina* (also for phylogenetic analysis). They drove 3000 km through the Andes and collected up to 5 km above sea level in the Cordillera Blanca. On the last collecting day the elusive lycaenid was found!

Before returning home Rod gave another presentation at Harvard University where his second supervisor, **Roger Kitching** was present in the audience.

Rod includes amongst his highlights from the trip, catching *Eldoradina*, the awesome Andean scenery and the Inca and pre Inca ruins, finding the remains of an Inca mummy in a small cave in the mountains above Cajamarca, and dining at 'Punta Sal' in Lima. They make the best cerviche (Peruvian raw fish dish) and the best pisco sours (traditional Peruvian drink). On the down side: finding huge numbers of *Eucalyptus* and *Casuarina* trees throughout the Andes and in the desert on the west coast, seeing a human skull in a rubbish tip alongside the road (just outside a major coastal town), and having to come home!

Rod EASTWOOD

Queensland University of Technology

The entomology group continues to grapple with a diversity of topics and new students are filling seats. **Mark Ero** and **Amanda Mararuai**, both from the

PNG National Agricultural Research Institute, are resident in the lab on ACIAR Allwright Fellowships. After completing qualifying work, Amanda will be working on fruit flies, comparing aspects of the biology of Q-fly with PNG's major pest species, *Bactrocera frauenfeldi* (also a polyphagous, cue-lure responding species). Mark will be working on *Oribius* weevils, directly enrolled into a PhD program after successfully completing a Post Grad Dip (Entomology) externally through UQ. Also as part of the ACIAR work, the lab has recently hosted visits from **Pus Weiss** (PNG NARI), **Leka Tom** (PNG NAQIA) and **Sarlesh Kumar** (Fiji, SPCPPS). On the down side of team growth, **Helen Nahrung's** QUT postdoc has finished and she has moved across to QDPI to work with **Simon Lawson** *et al.* in the forest entomology team. Helen made a great contribution to the forest entomology component of the lab's work, with her particular research focusing on mites as sexually transmitted diseases of paropsine beetles. In addition she has been a great advisor to PhD student **Mike Duffy** (just confirmed into his PhD program), a position she'll continue to fill along with Simon Lawson, Mike's industry supervisor. Congratulations to **Amy Carmichael**, **Mark Schutze**, **Alexisis Wilson**, **Eve White** and **Andie Hulthen**, all of whom have recently submitted or had accepted thesis papers.

University of Queensland

Meron Zalucki is visiting **Lincoln Brower** in Virginia to talk about Monarch population decline in North America from 23 June to the 8 July. His colleague, **Steve Malcolm**, will be accompanying him.

Scott O'Neill, Head of the School of Integrative Biology at UQ, will lead an international team of scientists who hope to shorten the lifespan of mosquitoes that carry the deadly dengue virus. They have discovered a *Wolbachia*, a type of naturally-occurring bacteria, that passes from one generation of mosquito to the next and can halve the adult mosquito lifespan. This project will seek to introduce the bacteria to mosquitoes so that they do not live long enough to transmit the dengue virus. This is an alternative strategy to the current primary method of control using insecticide-based programs that target mosquito populations and are expensive to maintain. This project will provide a large area-wide control strategy that is cost-effective, self-perpetuating and will not require the use of insecticides. At the moment, there is no vaccine available and no effective drug to treat dengue cases. UQ will be the lead agency throughout the five-year project, working with a team of scientists from Thailand, Vietnam, Japan, Australia and the United States with expertise in *Wolbachia* genetics, dengue transmission and control, health promotion and education. The project is to be carried out in Australia, Vietnam and Thailand.

Department of Natural Resources and Mines, Alan Fletcher Research Station, Sherwood

The biocontrol group at Alan Fletcher Research Station said goodbye to **Raghu** who completed a 3-year post doc with the CRC Australian Weed Management and has taken up an appointment with the Illinois Natural History Survey. **Peter Jones** has also left for Innisfail following his wife, **Kylie's** appointment to the *Chromolaena* eradication project. **Liz Snow** has moved to a new team and she will be studying host-specificity of cat's claw leaf-tying moth and the effects of lantana bug *Aconophora compressa* on non-target native mangroves.

Brenda Kranz (ARC Postdoctoral Fellow, University of Adelaide) visited AFRS and held discussions with **Dhileepan** on reproductive polymorphism in mycophagous thrips.

Dhileepan attended the Weeds Forum held at the Maleny Wood Expo 2005 and gave a presentation on biological control of weedy vines in Queensland. The biocontrol group along with other weed groups in pest management research participated in a science quality review by a committee chaired by **Max Whitten** and including **John Goolsby** who flew back from Texas for the review. Pest management research received a good review from that process.

Bill Palmer has been looking at ways to use the Biological Control Act for insects that are not completely host specific. He has also been busy progressing a special use permit for treatment of fiddlewood trees under attack *from A. compressa* after **Manon Griffith** and **Judy King** completed their research and presented their report on that issue.

Tim Heard and **Michael Day** hosted a delegation from Thailand in April to discuss collaboratory projects on the biocontrol of *Mimosa pigra* and *Chromolaena odorata* respectively. Biocontrol workers in Thailand are interested in importing agents that are proving damaging on the weeds in Australia and PNG.

Michael Day and **Andrew Clark** have been travelling to the Northern Territory and Torres Strait under the Weeds of National Significance program to discuss control options for *Lantana camara*. Michael also took the time to survey for biocontrol agents that had naturally spread to the regions.

Liz Snow (biocontrol of lantana), **Tanya Grimshaw** and Bill Palmer (status of biocontrol in Queensland) attended the 8th Queensland weed symposium held

in June in Townsville and gave oral presentations. After the conference, Bill Palmer and **Cathy Lockett** (Tropical Weeds Research Centre, Charters Towers) visited the prickly acacia release sites of the geometrid *Chiasmia assimilis*. At one site they were overjoyed to find large numbers of moths throughout the infestation following a second defoliation event by the caterpillars. Bill Palmer also visited Charters Towers to see the biocontrol work at the Tropical Weeds Research Centre.

Dhileepan is collaborating with **Andrew Lowe** (University of Queensland) to identify the source of cat's claw creeper introductions to Australia, a target weed for biocontrol, by studying cpDNA variation within the native and introduced (i.e. Australia, South Africa) ranges of the weed.

The Queensland Government announced plans to build an Eco Science Precinct at the old Boggo Road site in Brisbane. The plan is that all work presently undertaken at Alan Fletcher Research Station will be relocated there, a move that would require a new quarantine facility. Bill Palmer has been seconded to the team planning this development.

DHILEEPAN

Department of Primary Industries and Fisheries

Colleagues, friends and family gathered in Toowoomba on 27 July to farewell **Bernie Franzmann** who retired on 1 July after 43 years service to Queensland DPI&F. Bernie joined as a Cadet in Brisbane in 1963. He gained his B.Sc. Degree part-time at University of Queensland in 1968, then moved to Toowoomba for a very brief stint before transferring to Innisfail from 1970-74. Bernie researched the North Queensland banana industry's insect problems, gaining an M Sc Degree along the way for his studies of banana scab moth.

In 1974 Bernie transferred back to Toowoomba, and there he remained for the rest of his career. Bernie has researched a wide range of pests on potatoes, onions, lucerne, sorghum, sunflower and cotton. Arguably his greatest contribution has been towards the development of midge-resistant grain sorghum. Midge resistant varieties now form the basis of the Australian sorghum industry. His research has contributed towards one of the most successful IPM programs in field crops. In 2004 Bernie was awarded a PhD from The University of Queensland for his sorghum pest research.

Bernie hopes to be retained as an Associate Researcher at DPI&F so that his skills, knowledge and experience can be passed on to the next generation of entomologists. For the immediate future, the hardest work ahead of Bernie is backing the caravan into a parking spot as he and wife Dawn take some time out travelling Australia."

DPI&F entomologist **Adam Hardy** is continuing the sorghum midge resistance research.

Saying farewell to Bernie were many entomological 'ghosts from the past' in attendance - **Merv Bengston**, **Ian Galloway**, **Bob Teakle**, **John Turner**, **Bill Yarrow**, **Bryan Cantrell**, **Don Rossiter**.

Dave MURRAY and Iain KAY

CSIRO Entomology

Nancy Schellhorn will be a visiting fellow with the Wageningen Research School for Production Ecology and Resource Conservation at Wageningen University in September and March. She will spend her time working on the area and configuration of non-crop habitat for natural enemies with **Wopke Van der Werf** and **Felix Bianchi**. This is a key area of Nancy's research and fits into work on refuges for natural enemies and scaling up. They will be building simulation models to generate predictions about the area and configuration of a refuge for biological control agents with particular life-history characteristics.

The Pests group recently farewelled **Veronica Brancatini** and **Shama Khan**. Over the last 15-20 years both have made significant contributions to CSIRO's biological control research projects on pests as diverse as breadfruit mealybug, green vegetable bug and whitefly. Veronica is looking forward to being a full-time mum for a few months at least before seeking other employment opportunities, while Shama has taken up a Research Assistant position with Origo Biotech Pty Ltd at the University of Queensland, St Lucia.

Richard VICKERS

USDA Australian Biological Control Laboratory

The search for biological agents for the paperbark tree, *Melaleuca quinquenervia*, and the climbing fern, *Lygodium microphyllum*, lead **Ryan Zonneveld** and **Bradley Brown** to the central coast of Queensland in June. No new insects were found though several field sites were located for the collection of existing agents being studied. **Jeff Makinson** is making plans to be stationed in Singapore for six to twelve months to concentrate on the *Lygodium* stem-boring moth. This insect is extremely rare in the field and regular visits in the past to Singapore haven't been successful in retrieving sufficient specimens for colonisation and further research. **Tony Wright** will visit Thailand in July to meet with our long-term collaborators at the Thai Department of Agriculture. **Amporn Winotai** and her assistants at DOA are culturing and surveying for biological control agents of *L. microphyllum* and skunk vine, *Paederia foetida*.

Matthew PURCELL

Queensland Museum

Geoff Thompson has been awarded one of three, Queensland Government - Smithsonian Fellowships for 2005. This allows him to work for three months with **Marie Metz**, Scientific Illustrator at USDA's Systematic Entomology Laboratories, within the Smithsonian Institution's National Museum of Natural History, Washington DC. Geoff will share and enhance his expertise in insect illustration and high-depth-of-field microphotography. He will learn to combine these photographs with traditional and digital illustration techniques.

It has been a busy few months for Geoff, as he exhibited 18 works in an insect-themed, group exhibition at Redland Gallery, Cleveland, entitled The Insectary - Walking with Bugs, 20th March - 3rd May, 2005. The day after the close of this exhibition Geoff and two efficient Queensland Museum colleagues rehung all of Geoff's work in the Queensland Parliamentary Annexe, where it was on display until the 23rd May. The award was presented by the Queensland Premier on 10th May before an invited audience of a hundred people, in the Parliamentary Annexe.

In early July Geoff will be visiting the Australian Museum to see their Microptics, high-depth-of-field photography system. He will also discuss illustration and microphotography with **Hannah Finlay** and **Matthew Bulbert**.

Geoff and his wife, **Caroline Fewtrell**, will leave for the US in late July. He will firstly visit institutions in San Francisco and Boston, before presenting a talk to the Guild of Natural Science Illustrators annual conference in Bar Harbor, Maine. The real work will commence in Washington DC in late August.

Geoff THOMPSON

University of Adelaide

After submitting her PhD thesis this month, **Jo Kent** leaves for Valdosta State University in Georgia (U.S.A.) for a year long visiting lecturer position, teaching undergrads about Biology, Genetics and Evolution, plus establishing research collaborations in the U.S. and getting involved in the science community over there.

Queensland Institute for Medical Research

Brian Kay and **Peter Ryan** recently visited the National Institute of Hygiene and Epidemiology, Hanoi, Vietnam, to continue collaborative efforts towards eradication of *Aedes aegypti* using predaceous *Mesocyclops* copepods and community

Bernie Franzmann then ...

... and now. Bernie contributed significantly towards the development of midge resistant sorghum

involvement. The team is currently implementing phase III of the project. Work is due to commence shortly on a recently awarded Gates foundation Grand Challenge award with the School of Integrative Biology, UQ. The project aims to stop dengue virus transmission by introducing a life-shortening strain of *Wolbachia* endosymbiont into *Aedes aegypti*.

Tim Hurst and **Leon Hugo** have recently graduated from their respective doctorates. Tim has commenced work as research scientist for the Mosquito and Arbovirus Research (MARC) committee based at QIMR, Leon has commenced an ARC-linkage postgraduate fellowship with QIMR, the University of Queensland and MARC developing a PCR-based gene expression assay for age grading mosquitoes. In June, Leon attended the Biology of Disease Vectors workshop held this year at Bangkok and Koh Chang, Thailand.

Continuing PhD students include **Jason Jeffery**, studying the ecology, population biology and vector competence of *Verrallina funerea*, **Tessa Knox** on new sampling strategies for determining the productivity of water storage containers in Vietnamese communes for *Aedes aegypti*, and **Tanya Russell** on contemporary mosquito control strategies using microbial based insecticides. **Anna Guerney** has recently joined the laboratory as a new PhD student, studying the ecology and vector competence of *Ochlerotatus procax* in south east Queensland.

Linda Perkins (nee Muir) has returned to the laboratory after an eight year absence, to investigate the population genetics and vector competence of *Ochlerotatus notoscriptus* in Queensland. *Liu Yubing* from the Shandong Institute, China, will join the laboratory for six months, continuing on from work undertaken last year on the cuticular hydrocarbon method of age grading mosquitoes.

Bronwyn WALSH

SOUTH AUSTRALIA

University of Adelaide

John Jennings has transferred to the School of Earth and Environmental Biology although most of his colleagues haven't seen him for a while. He is back on the mend after 2 months on sick leave, and is looking forward to getting back to researching the Australasian Aulacidae and Xiphydriidae (wood wasps). John received funding to study the Xiphydriidae in the latest round of grants announced by ABRS.

Jo Kent says she is getting very close to submitting what must be about as "emotionally intense and as much of an epic as Lord of the Rings, but substantially less interesting" and she can't see it becoming a classic. However, she is planning to hand it in before leaving for the southern U.S. to join the 'gators and swamp mossies and all that nutritious southern fried food. The leaving date is the 28th July and she is getting increasingly nervous as the day gets closer.

Several people from **Andy Austin's** lab attended the recent Molecular Biology and Evolution Conference in Aukland. **Nick Murphy** presented a paper on his new 3 gene phylogeny for the lycosid (wolf) spiders, while **Michelle Guzik** and **Kate Muirhead** presented posters on stygofaunal dytiscid beetle evolution and the molecular recogition of stemborer parasitoids respectively. **Steve Griffiths** has submitted his honours thesis "Behavioural and ecological dominance in *Iridomyrmex* (Formicidae)", as has **Virginia Holt** "Impact of bridal creeper on ground-dwelling insect diversity". Congratulations to both Steve and Virginia who received 1st class honours grades.

Chris Madden is plodding along doing identifications on macro-invertebrates from wetland samples collected in 2004 for the DEH Biological Survey of the Murray Floodplain. He says the most notable thing recorded is two taxa new to South Australia in one sample. One is *Merragata hackeri*, a bug in the family Hebridae which is widespread in south-eastern Australia. The other beast is a mite, *Sigthoria nilotica* from the family Anisitsiellidae. This is the first record of this family from SA. He is also doing some work for **Susan Lee**, PhD student at Flinders Uni, who is looking at the effect of low-flow farm dam diversions on stream macroinvertebrate communities. His other paying task is to identify macroinvertebrates to family level for a Waterwatch group in Emerald, Queensland.

Flinders University, Michael Schwarz laboratory

(http://www.scieng.flinders.edu.au/biology/people/schwarz_m/mps/mpshome.htm):

Simon Tierney has recently completed his doctoral dissertation. Simon's research investigates the evolution of allodapine bees, a group of insects that are important for understanding how social behaviour has evolved. His research draws together DNA technology and studies of social behaviour, ecology, biogeography and taxonomy. His results provide a new framework for understanding the evolution of bees, and his findings have already had a major impact. They overturn previous theories by showing that sociality in these bees had a very ancient origin, which explains the mystery of why behaviour in these bees is so complex. His results also have major implications for understanding the genesis of insect biodiversity in Africa and Australia, raising some major puzzles and suggesting how these might be solved.

Subsequently, Simon has been granted a prestigious Tupper fellowship to begin work at the Smithsonian Tropical Research Institute in Panama. Simon will be using his phylogenetic and field-based tool kits to investigate the evolution of nocturnal foraging in the sweat bee genus *Megalopta* (http://www.stri.org/english/about_stri/headline_news/news/article.php?id=154).

This year new students **Jaclyn Smith** (PhD candidate) and **Luke Chenoweth** (Honours) joined established Schwarz lab member **Narelle Joyce** on an allodapine bee collection trip to Madagascar and South Africa – the materials and data collected will be instrumental in addressing further the conundrums that Simon's work has uncovered.

Tom CHAPMAN

South Australian Research and Development Institute

Entomologists from SA made the most of an extended warm and dry period that followed summer, however, we have just experienced the coldest July day on record (9.50C). The rain and mud has not deterred interest in insects at the Re-vegetation by Design native vegetation plots on the Northern Adelaide Plain. **Glenys Wood** and **Peter Taverner** conducted a tour of three of their vegetation sites for members of the Three Million Trees initiative, Barossa Catchment Board and local council. These groups are very keen to support further research by co-ordinating their new plantings of native vegetation to facilitate exploration of natural enemy habitat in horticultural context. **Karen Geyer**, who has a background in research on kleptoparasitic thrips that invade galling *Acacia* thrips has joined our team. She is now involved in managing our Western Flower Thrips culture and identifying insects from our surveys. **Dijana Jevremov** has increased her involvement in the team to assist communication of results. **Bill Kimber** has submitted the final report for the Fire Ant Passive and Active Surveillance Program in SA and he now awaits word on continuing the program. **Mymy Huynh** has taken a year leave of absence from AQIS to live in Seoul, South Korea. She has a new job teaching English and has been so busy that so far she has only seen one large wasp!

Fruit fly researcher **Vanessa Bosco** was married in May this year and her new name is **Vanessa Cockington**. Since the fruit fly project has focused on Queensland fruit fly, **Cathy Smallridge** and Vanessa have run pilot trials in the Waite Orchard testing pre-release treatments to increase sexual maturity. Earlier this year Vanessa was assisting with mating compatibility tests at Macquarie University with **Phil Taylor** that will continue over the next spring/summer season. This work will help to solve some of the efficiency issues of using the sterile insect technique in SA.

The broad acre snail project in SARDI finished at the end of June after 6 year's funding support from GRDC. Within the Entomology Unit, it had inputs from **Suzanne Charwat** (99 to Nov 2001), **Megan Leyson** (Nov 2001 to now), **Nathan Luke**, **Kerrin Maratos** (NEE Bell) **and Dennis Hopkins**. The project has produced a management package that now allows farmers to successfully manage snails provided they are prepared to stay focused on snail problems throughout the entire calendar year. Megan has taken 6 month's leave without pay and has commenced an overseas trip in Europe and hopes to return to the Unit if some funding options come to fruition. Nathan and Kerrin have transferred to other projects in the Unit and Dennis is diverting his attention to other projects and management within the Unit.

Dept of Environment and Heritage

Lynette Queale of the DEH Biological Survey team has been involved with group surveys of specific areas of the state to obtain baseline data of the local flora and fauna. During recent times invertebrates have been identified and assemblages of taxa have been incorporated into the reports. Reports are being prepared for our surveys of the Murray Valley and Mid-North and Yorke Peninsula. A report for the survey of Mt Willoughby Indigenous Protected area conducted in 2003 is in press. These will include chapters on the invertebrates that were found in these areas. They have been identified to genus and species where possible and include taxa numbering 338, 397 and 232 respectively. New regions recently undertaken by our team are the "Arid Rivers" in the north of the state. Eyre Peninsula and the Sandy Deserts are ongoing. Lynette would really like to find someone who can identify isopoda as we have most of the other groups covered.

South Australian Museum

Archie McArthur continues to be very busy in the field and has recorded ants from pitfall traps set prior to a controlled burn at Padthaway Conservation Park. He is planning to repeat trappings at the same sites.

Waite Insect & Nematode Collection:

Thanks to significant funding from Plant Health Australia, databasing of specimens continues apace. We are fast approaching 20% of the collection databased.

Glenys WOOD

TASMANIA

Forestry Tasmania

Belinda Yaxley and **Bronwyn Appleby** have just about finished sorting the beetles from the first five-year sampling cycle of the Warra long-term log decay study. This means Belinda can now start on sorting the beetles from the Warra silvicultural systems trial, Bron can assist Bushfire CRC postdoc **Pep Turner** in establishing a set of wildfire chronosequence sites, while **Simon Grove** gets on with some analyses. Simon and Pep recently hosted a visit to the Warra area by **Alan York**, **Karl Brennan** and **Fiona Christie** from the University of Melbourne at Creswick. Karl and Fiona are also Bushfire CRC postdocs and are on the lookout for study sites around Australia where they can look at the role of invertebrates in ecosystem processes; the wildfire chronosequence sites are amongst those being considered. Warra is proving a popular place for study, and in connection with this, Simon is attending a meeting in Beijing in July on project data management in LTER sites. He is also helping **Marie Yee**, **Lee Stamm** and UK forestry student **Laura Borrer Closs** with a research project aimed at better understanding the log habitat of giant velvet worm in NE Tasmania (see photo). The fieldwork involves chainsawing through a limited subsample of logs to sample the rotten wood in their core to determine moisture content and rotten wood type. At the same time, because of the threatened status of these velvet worms, it requires minimising actual encounters with the worms themselves - in practice not difficult given their scarcity even in good velvet worm country. The species primarily occurs in state forest so its conservation presents a particular challenge to Forestry Tasmania. Laura returns to the UK in early August to write up her Masters thesis. In June **Dick Bashford** attended the National Workshop on Plant Pest Surveillance in Urban Areas, in Canberra. Dick is the new forestry representative on the inter-agency Tasmanian Biosecurity Group which recently held its first meeting. Dick joins **Margaret Williams** (DPIWE) as the entomology contingent in this group. Dick will be running a new project, commencing in spring, looking at developing trapping techniques specifically targeting wood-borers attacking mid rotation eucalypt plantations prior to thinning. To enhance high quality sawlog production, growers carry out costly pruning and thinning operations. However, drought or site

Simon, Marie and Lee weigh up the merits of the THD approach to sampling in Tasmanian giant velvet worm country

stress can result in high levels of tree mortality due to the attacks of wood-borers. A monitoring system giving indications of pest species incidence will enable managers to make informed decisions on cost-effective operational prescriptions. Meanwhile, **Jane Elek** is investigating Pesticide Rating Index systems for estimating the environmental impact of different pesticides that could be applied to forest insect pest management systems. If anyone knows of a system being used in any other Australian industry, she would love to hear from you (Jane.Elek@forestrytas.com.au).

University of Tasmania, School of Agriculture Science, Tasmania Institute of Agricultural Research (TIAR), CRC for Sustainable Forest Landscapes

Paul Walker has started a new ARC Fellowship with **Geoff Allen** to look at the chemoecology of eucalypt plantation pests. The project will look at developing sex pheromone-based technologies for managing autumn gum moth (*Mnesampela privata*) populations and search for potential info-chemicals for managing/monitoring scarab beetles (*Heteronyx* and *Liparetrus* spp.). Paul was previously the Entomologist at the Australian Plague Locust Commission in Canberra. **Anthony Rice** has almost completed writing his thesis on 'Larval parasitoids of *Chrysophtharta agricola*'. Geoff Allen is currently reading through the final draft while simultaneously preparing for the new term of teaching of the Insect Ecology and Behaviour course. **Guy Westmore** has commenced a PhD with **Calum Wilson** and Geoff Allen to look at thrips as vectors of viruses in potatoes. He is currently busy trying to establish cultures of thrips for specificity testing between different potato cultivars.

The CRC for Sustainable Production Forestry, based at the University of Tasmania in the CSIRO Forestry and Forest Products (FFP) building, came to an end in June while the new CRC Forestry started. At the same time, CSIRO FFP joined forces with the New Zealand forest research group SCION to form a new venture called ENSIS (see: http://www.ensisjv.com/). Unfortunately, the new CRC will have a smaller entomological focus than the previous one. However, it is hoped that ENSIS will lead to the creation of new cross-Tasman entomological research projects. We are already involved in a project on the biological control of *Uraba lugens* in New Zealand. Also in June, **Sue Baker** (School of Zoology) gave two talks on the impact of clear felling on litter beetles at the Forestry CRC which she is due to present at the Society for Conservation Biology Conference, Brasilia (July) and at the ESA/ INTECOL Conference, Montreal (August).

Tasmania-based multipede guru **Bob Mesibov** reports that he continues to publish in millipede taxonomy, with a paper in press, one in review and other in progress. Having put Tasmania on the multipede map over recent decades, his current focus is the relatively unexplored state of Victoria, which is proving very rich in species, though sadly many are confined to tiny remnants of formerly much more extensive habitat.

Simon GROVE

VICTORIA

University of Melbourne

In August last year an initiative between the University of Melbourne and the Department of Sustainability and Environment saw the creation of the School of Forest and Ecosystem Science. Based at Creswick in the Goldfields District of Victoria, the School offers a mix of teaching and research across a broad range of disciplines relating to environmental management. Within the Bushfire Research and Development Group, **Alan York** has recently employed several *young* invertebrate people to join himself and **Helen Doherty** to begin projects in conjunction with the Bushfire CRC. **Fiona Christie** was the first postdoctoral fellow to arrive. She is refreshed after an interesting working holiday around Broome to celebrate completing her PhD at Sydney University with **Dieter Hochuli. Karl Brennan** and **Melinda Moir** also found their way across the country, after several wrong turns, to relocate from Perth to Creswick. Karl came from a short stint at Murdoch University with **Giles Hardy** to take a postdoctoral position with Alan. Karl has also begun supervising PhD candidate, **Peter Langlands**, with **Barbara York-Main** (University of Western Australia) and **Volker Fraumau** (Western Australian Museum) on spider assemblages in Western Australian deserts. Melinda Moir arrived after finishing 6 months compiling risk assessments on exotic pest species not currently in Australia for Plant Health Australia, at the Western Australian Department of Agriculture. The Bushfire CRC projects will focus on ecosystem processes and function related to fire, using predominantly invertebrates. However, some work will also involve microbes and fungi, and require the additional expertise of other newly employed staff. The main ecosystem function that the group will consider is nutrient cycling before and after fire. Everybody recently enjoyed the warmer weather during two separate fieldwork trips to Alan's long-term study site at Bulls Ground, NSW (near Port Macquarie). We are also hoping to establish new local field sites in other *Eucalyptus* forests within Victoria and in Tasmania, in collaboration with **Simon**

The new Bushfire CRC group at Creswick, Victoria, dreaming of their field sites in Northern NSW. From L-R: Karl Brennan, Helen Doherty, Alan York, Melinda Moir and Fiona Christie.

Grove's (Forestry Tasmania) research group. Simon recently visited the group to discuss collaboration projects. Please visit our newly constructed website for more detailed information on members and our activities at http://www.forestscience.unimelb.edu.au/whatwedo.html

Melinda MOIR

Centre for Environmental Stress and Adaptation Research

The La Trobe University node of CESAR (Centre for Environmental Stress and Adaptation Research) has moved to the University of Melbourne following the appointment of the director **Ary Hoffmann** as a Federation Fellow in 2004.

PhD students **Belinda van Heerwaarden** and **Vanessa Kellerman** are currently investigating the ability of rainforest species to adapt to changing climatic conditions, focusing on two rainforest restricted *Drosophila* species: the cryptic *Drosophila* sp x and *D. birchii*. Previous research at CESAR has demonstrated very limited potential in rainforest *Drosophila* to adapt to desiccation stress. This suggests that limits in the distribution of some invertebrates may be associated with an absence of genetic variation for ecologically important traits. **Melissa Carew**, **Vin Pettigrove**, **David Sharley** and **Renee Cox** are making good progress in developing chironomids as pollution signatures, with the publication of a paper on molecular markers for rapid and accurate sorting of chironomid species. Melissa developed a DNA marker system to rapidly identify chironomid species from around the greater Melbourne area. The first molecular survey (and first use of molecular markers for identification of all chironomids from a region) has now been published and Renee and Melissa are starting to identify the habitat requirements and pollution sensitivities, through intensive sampling of wetlands around Melbourne.

PhD students **David Sharley** and **Angelos Tsitsilas** are looking at the effects of vegetation in agriculture. David's focus is on whether shelterbelts or remnant vegetation adjacent to vineyards can enhance natural populations of beneficial invertebrates such as predatory beetles, spiders and parasitoid wasps within the vineyard. Angelos is continuing CESAR involvement with pest mite control in pasture production, looking at the effects of windbreak management on beneficial and pest invertebrates in Victorian pastures. The major pests surveyed are redlegged and blue oat mites, lucerne fleas, leaf hoppers and aphids. Does windbreak structure, especially understory, influence numbers of these pests and their potential natural enemies (spiders, predatory mites, predatory beetles and parasitoids) both in the windbreak itself and in the adjacent pasture?

Michael Kearney is reviving a classic study of parthenogenesis in the grasshopper *Warramaba virgo* that was discovered in the 1960s by the great cytologist and entomologist MJD White. Parthenogenesis is all female reproduction and mothers give birth to genetically identical clones of themselves (except for rare mutation). White and his colleagues used cytological methods to study the origin of *W. virgo* and discovered that it arose when two very different looking species hybridized. Research into this system ceased in 1983 when White died. We are now applying modern molecular approaches (mtDNA sequencing and microsatellite markers) to further understand the origin of this parthenogenetic grasshopper. We will also undertake laboratory experiments from a more ecological perspective to understand the role that hybridization has had in its successful establishment in the semiarid regions of western and eastern Australia. Perhaps the most exciting aspect of this study is the potential to 'synthesize' parthenogenetic lines of *W. virgo* by hybridizing the parental species in the laboratory. White was partly successful at doing this and we hope to repeat his hybridization studies on a larger scale, giving us a rare window into the consequences of hybrid origins of parthenogenesis.

Linda THOMSON

WESTERN AUSTRALIA

Curtin University Environmental Biology

Well, as you might expect, changes to the educational system and our administration are having an impact on our small department, and there has been some loss of staff because of funding shortfalls.

Brian Heterick still intends to submit a monograph on the ants of Southwestern Australia next year, and is getting help from **Bradley Durrant** (CALM) with the illustrations. He also expects to see his monograph on the *Monomorium* ants of Madagascar come out later this year. He has recently identified a specimen of the ant genus *Mayriella* collected by CALM officers in Nuytsland NP. This is a first record for this genus for WA.

The Department has won the contract with Chevron/Texaco to perform a scoping study of the terrestrial invertebrates of Barrow Island. This is related to the planned Gorgon Gasfield liquification plant which, if the project goes ahead, will be situated on Barrow island, an A-class Reserve. **Jonathan Majer** has been assisted in the field by **Shae Callan**, **Karen Edward** and **Natalie Randall** (ex Curtin Honours). Shae is currently making good progress on identifying.

Gabriel Bizimunga has recently arrived from Rwanda to undertake an MSc on integrated pest management of coffee pests – no small feat considering that we don't grow coffee here! **Paul van Heurck** (CALM) has also enrolled for a part-time PhD, proposing to work on succession of beetles in habitat mosaics created by various fire regimes in southern forest regions.

Nihara Gunarwardene is currently in Sri Lanka carrying out field work for her PhD examining the response of ants to habitat fragmentation and restoration.

Aaron Gove has returned to Curtin to begin a Postdoc with Jonathan Majer, **Rob Dunn** (University of North Carolina) and **Tim Barraclough** (Imperial College), in an ARC-funded project examining the role of ant seed-dispersal in plant speciation and biogeographic patterns.

Muresk Institute

Exciting and interesting news is reported from **Mazé de Sousa-Majer**, who has accepted a Postdoctoral Research Fellow with the Horticulture Research Laboratory. Mazé is working on post-harvest storage and produce quality of bush tomato (*Solanum centrale*). She is conducting experiments to evaluate the effects of post-harvest disinfestation with minimal or no chemical treatments on the bush tomato fruit. This research project is a part of "Sustainable bush produce systems for the arid zone" funded by Desert Knowledge CRC. She is working with **Zora Singh's** research group at Curtin. Mazé will be keeping us informed about the success of this project.

UWA Centre For forensic Science

Congratulations to PhD student **Michelle Harvey** (topic: evolutionary relationships of the calliphorids), who has just been awarded the WA Woman of the Year 2005 (Science category). Michelle returned to WA recently after completing her Australia America Award at University of Tennessee. **Evan Roeterdink,** after successfully finishing his Master degree on detecting gunshot residues in fly larvae, has accepted a scientist position with the Australian Federal Police in Canberra. **Sasha Voss** will be commencing her PhD in forensic entomology in August studying the relationship between flies and wasps on carrion.

Ian Dadour has been teaching forensic Entomology to the FBI at the University of Tennessee as part of the annual Human Remains Recovery School. He and Michelle both attended the European Association of Forensic Entomology meetings in Lucerne Switzerland. Michelle, Sasha and Ian will be attending the International Association of Forensic Science Meeting in Hong Kong in late August.

Department of Agriculture WA

In response to interest by WA olive growers, **Sonya Broughton** and **Stewart Learmonth** sampled 26 sites across southwest WA for black scale parasites and predators in April. Black scale is the most important pest of olives in WA. **Andrew Matthews** (SACOA) and **David Cousins** also assisted with the survey, proving themselves to be useful ant bait. Preliminary survey results suggest that the wasp *Scutellista caerulea* is the most commonly occurring parasite, with ladybird beetles (mostly natives) and the scale-eating caterpillar (*Catoblemma dubia*) the most common predators. Further surveys are planned in spring with help from olive growers.

AQIS

Peter Neville has joined the AQIS WA team as the Operational Science Manager. He has been employed with AQIS for close to three years and has worked in the Victorian Entomology office for the past two. He has completed a Ph.D. in fire ecology working on the ants of the Dandenong Ranges National Park and has been employed with the Museum of Victoria. **Chris Norwood** continues to work within the Entomology lab at the AQIS Regional Office at the International Airport.

Tony Postle has been busy with a boat survey to the Buccaneer Archipelago in April, attendance at a Remote Area Training Course on the Dampier Peninsula in early May, and a survey to the Torres Strait with the Mareeba NAQS team in mid-May. Although lots of interesting specimens were collected, nothing of quarantine significance has yet come to light.

Conservation and Land Management

Invertebrates of the Pilbara Survey

The Biogeography Program team based at the Wildlife Research Centre, Woodvale is carrying out one of the most extensive biological surveys ever conducted, in the Pilbara region of Western Australia. With assistance from the Western Australian Museum the survey will be researching the biodiversity of the region between 2003 and 2007. The survey will provide an overview of the Pilbara's biodiversity, most of which is poorly documented. The data will be used to develop a framework to guide sustainable land-use and conservation in this 190 000 km2 area, which is almost the size of the State of Victoria. Around 800 sites encompassing all of the Pilbara's major environments (terrestrial and aquatic) will be sampled for various components including aquatic plants, invertebrates and stygofauna, terrestrial plants, vertebrates and invertebrates.

While only half way through sorting samples collected to date, it is already clear that the volume and diversity of the terrestrial invertebrates has been unexpectedly high. It is too early to determine the number of new species, but we are getting tantalizing indications with unusual spiders, scorpions and beetles turning up on a regular basis. **Nadine Guthrie** and **Brad Durrant** are managing the sorting and identifications of the invertebrate samples, and collaborations have been established with CSIRO (**Tom Weir**: various bugs and scarabs; **Rolf Oberprieler**: weevils), AQIS (Tony Postle and **Glenn Bellis**: various bugs), University of Adelaide (**Nick Stevens** and colleagues: wasps and bees), Edith Cowan University (**Adrienne Kinnear**: mites) and **Simon Judd** (isopods). These are in addition to collaborations with **Mark Harvey**, **Julianne Waldock** and **Volker Framenau** from the Western Australian Museum on various spider groups.

Sonya BROUGHTON

CONFERENCE ANNOUNCEMENT

6th International Conference of Hymenopterists
Sun City, South Africa
22 – 27 January 2006

First and Final Circular

The International Society of Hymenopterists invites you to participate in the above scientific conference which will be held at Sun City, Northwest Province, South Africa. This will be a forum for the dynamic exchange of information and ideas relevant to those interested in Hymenoptera. Your input is required to make this a success, and suggestions for symposia, special sessions and/or keynote speakers will be particularly welcomed.

Enquiries: All inquires about payments and registration, scientific programme and presentations should be directed to Denis Brothers (brothers@ukzn.ac.za). Inquiries about the venue, accommodation, local travel and general assistance should go to Gerhard Prinsloo (PrinslooGL@arc.agric.za).

Organizing Committee

Chair: Prof Denis Brothers, Pietermaritzburg (brothers@ukzn.ac.za)
Dr Gerhard Prinsloo, Pretoria (PrinslooGL@arc.agric.za)
Dr Connal Eardley, Pretoria (EardleyC@arc.agric.za)
Mr Greg Davies, Pietermaritzburg (gdavies@nmsa.org.za)

Scientific Committee

Chair: Prof Denis Brothers (SA) (brothers@ukzn.ac.za)
Dr Gerhard Prinsloo (SA) (PrinslooGL@arc.agric.za)
Dr Andrew Polaszek (UK) (A.Polaszek@nhm.ac.uk)
Dr Lynn Kimsey (USA) (lskimsey@ucdavis.edu)

Dr Lars Wilhelmsen (Denmark) (lbvilhelmsen@zmuc.ku.dk)

Venue: The venue is part of a tourist complex renowned for its sporting and other attractions, including the adjacent Pilanesberg National Park (where big game are on view). It is ideal for a family holiday and is in a malaria-free area. Additional information is available at http://www.suninternational.com/Resorts/SunCity/. Accommodation will be at the Cabanas complex in Sun City. Reservations must be made directly with Sun City.

Transport: The closest international airport to Sun City is Johannesburg, about 200km away. It is very strongly recommended that transport from the airport to Sun City is booked and paid for in advance as part of registration. We will provide the operator (Hamba Kukuhle Transport Solutions) with the information required to compile a custommade transport timetable for delegates. This will be a very convenient option in terms of limiting the waiting time for the next bus, and will also be very competitive in price. (Alternatives are to use another bus operator, but scheduled departures are few, or to hire a car, but the route to Sun City is not an easy one for the uninitiated!)

Language: The official Congress language is English.

Papers: Oral papers should be no longer than 15 minutes; additional discussion of 5 minutes will be allowed.

Posters: Posters will be grouped in cognate sessions. The size should be no larger than A0 portrait (840 X 1176mm).

Abstracts: Abstracts should be submitted electronically by e-mail directly to brothers@ukzn.ac.za or on disk no later than 15th November 2005. They should not exceed 250 words, in the format: Title; Author(s) (presenter indicated by *); Affiliation(s) including e-mail addresses (linked to authors by superscripts); Text (no figures, tables, references).

Registration Fees: The registration fees include teas and lunches each day, a welcoming party, an afternoon game drive, the congress dinner, congress documentation, and other goodies. They do not include accommodation, other evening meals or transport to Sun City. The fees for Companions include the welcoming party, afternoon game drive, and congress dinner.

The registration fees are: Early ZAR2100 (before 1st September 2005), Regular ZAR2600, Full-time Student ZAR1600, Companion ZAR900, One Day ZAR500, Late Penalty ZAR500 (after 31 October 2005) (for approximate US$ equivalents, divide by 6.5). Return transport from Johannesburg International Airport is ZAR415.

Refunds: Refunds of registration fees will only be considered if requests are received by 15th December 2005. An administration fee of R150 will be deducted from any refunds made.

T-shirts: Souvenir t-shirts will be provided. Please indicate your size on the registration form.

Collecting Permits: Collecting in South Africa is becoming increasingly regulated and will, in most cases, require permits, possibly from several authorities. Dr Gerhard Prinsloo (e-mail: PrinslooGL@arc.agric.za) will provide details of requirements and try to facilitate these, provided that requests are received early.

Australian Entomological Society Inc.
APPOINTMENT OF PROXIES

I, ... of .....

being a member of the above-named Society, hereby appoint .....

of .....

as my proxy to vote for me on my behalf at the Council Meeting, Annual or Special General Meeting, as the case may be, of the Society, to be held during 4-9 December 2005, and at any adjournment thereof.

Signed this ..... day of 2005

Signature .....
(A photocopy of this form may be used)

Australian EntomologicalSociety Inc.
NOMINATION OF OFFICER OR COUNCILLOR

I nominate .....

for election to the office of .....

Name of nominator .....

Signature ..... Date .....

I second this nomination Name of seconder .....

Signature ..... Date .....

I accept this nomination*

Signature ..... Date .....
* The nominee is requested to attach a typed statement, not exceeding 300 words, which includes the following: professional qualifications, address, institution, position held, fields of entomological interest, previous offices or appointments held in the Australian Entomological Society, any other information which may be of interest to members.
(A photocopy of this form may be used)
Please send all nominations to the Secretary, at the Society address given on the inside front cover of this newsletter before 31 October 2005.

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